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THE CULTURAL AND MEDICINAL SIGNIFICANCE OF FOLK MEDICINE
ON ARUBA

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Interwoven into present day Aruba, which is moving toward advancement in the field of technology and change in many aspects of life, are still remnants of past generations. In the field of medicine, such a balance can be seen. It is the aim of this paper to relate the opinions and statistics encountered while studying the use of folk medicine, defined as the home cures derived from plants and herbs on Aruba, and the role folk medicine holds in Aruban society. The paper will also deal with the medical significance of some of the remedies as an extension of material culture that is relevant to folk medicine.

As discussed in Bock (1969: 289 ff), medicine is a technique for healing sickness. It is a field of applied science that consists of practical techniques which are part of a larger body of knowledge and belief about the body and the causes of disease. Depending on the beliefs and knowledge of a culture, these techniques may or may not be efficient in producing the desired result, lack of sickness.

It is difficult to understand why certain techniques work which seem very unscientific. A possible explanation can be found in the close interaction of psychological and physiological processes involved in the theory of medicine. When a person is sick, he wants something done to make him well. In virtually all societies, it is almost as important that something be done for a person as it is that the medically correct thing be done.

This is recognized as the placebo effect. A placebo is defined as a pharmacologically inert substance that the doctor administers to a patient to relieve his distress when, for one reason or another, he does not want to use an active medication. According to Jerome D. Frank, despite their inadvertent reliance on placebos, physicians maintain an honorable reputation as successful healers, implying that these remedies were generally effective.

To explain this, we must remember that a physician performs a role in society. According to society, he is doing what is ex-

pected of him by prescribing medication. This action seems to raise the patients' hopes and allay his anxiety. Curing is aided by the belief in the doctor and is effected by the power of suggestion and social support.

The suggestion that "this will help you" is an important part of every healers' power. Where the curer has the confidence of his patients and where his powers are enforced by "sleight of hand" and confidence claims, suggestion probably plays a large part in producing cures. Closely related to the power of suggestion is the factor of social support. In nearly every society, the sick person plays a special role. The reaction of others to his sickness involves a display of comfort and concern for the unfortunate victim. These things enhance the suggestions and generally, the patient is convinced that he should return to a healthy state.

The general formula for any healing technique can be seen as illness X calls for treatment A. The treatment is based upon the healers' understanding of the agent and the cause of the diagnosed illness. In general, the healing activities attempt to avoid, remove or nullify the influence of whatever is believed to be responsible for the illness.

The so called superiority of scientific medicine is due to its more valid beliefs about human physiology and the nature of disease. However, western medicine has found primitive societies using medicines that are empirically effective and has adopted them into its' own society.

It is my hope that within the framework of the technology of healing sickness taken from Bock (1969: 289 ff), I can place the cultural balance of old and new medical practices found on Aruba today. I intend to present my findings and discuss them along the lines of the theory of medicine and to show the effective uses of several of the remedies according to western standards.

In studying the remedies of folk medicine, which I have limited to the home cures centered around plants and herbs, I have collected a sampling of the types of plants used, the way in which they are used and the purpose of their use. I am certain that there are other plants that are used and other uses for the plants I am familiar with. Those that I have been told about are used by the

people of the Santa Cruz area of Aruba. The degree of completeness of this grouping is limited by the inaccessibility of certain knowledge which remains a part of cultural beliefs and would not be told to strangers, my inability to make sufficient contacts and to use those I did make to the greatest degree and the physical area in which the study was made, that is it excludes the San Nicolas area which had slightly different plants and remedies due to the non-Aruban population living there.

Other than this collection, which serves to illustrate folk cures and early medicinal practices, I have been exposed to various attitudes relating to cultural values and beliefs toward medicine, that is healing the sick.

Having spoken to a small segment of the people in and around the Santa Cruz area, which serves as a sample of the Aruban population, I have noticed a wide spectrum of views toward both old and new medicine. Among the older portion of the population, the following views were expressed, the use of folk medicine exclusively, the use of neither home remedies or doctors, the use of both in various proportions. Among those that fall in the category of middle age, covering the age span of 40 to 70 years old, two attitudes are seen. Generally there is a mixture of the use of both folk and modern medicine. The distinction lies in the way one looks at them. For some, folk medicine is looked at as being the more important of the two although modern medicine does have some use. For others, folk medicine is a word that exists. For the younger age group, western medicine will have deeper roots. Their exposure to folk medicine is only to the extent that grandparents and parents use or remember it.

One of the difficulties in placing people in distinctive group attitudes is the problem of defining folk medicine. A large portion of the home remedies are various kinds of teas. For some, these are not considered medicinal. Therefore, people who have gone neither to a doctor nor prescribed to folk medicine, may follow the habit of drinking some one of the possible teas, which may or may not have any influence on promoting good health. Another problem in this respect is the climate. It is conducive to remaining healthy and therefore reduces the actual need for medical aid. Related to this tendency toward being healthy is the excellent pos-

sibility that a good number of people have never had to go to a doctor as they use some home remedy to cure minor complaints similar to the way Americans prescribe two aspirins and bed rest.

Before discussing the transition that is going on, it is necessary to examine the psychology behind and the development of folk medicine on Aruba.

It cannot be doubted that one person sometimes makes another person ill. People cause themselves to fall ill. Man seem to have the tendency to use one or both of these as a general explanation of illness. The reason is that no cultural system has succeeded in solving the problem of illness. Every cultural system seems to have an explanation for illness. (Beals, A. R., 1967: p. 43)

On Aruba, although not strongly evident, there are psychological factors upon which the medicinal values are hinged. The belief in the so called evil eye, which can possibly be explained as a gradient of will-power, has been used to explain why some people get sick. One of my informants explains this attitude as there being people who have a great deal of control over their mind. They can become domineering enough to cause other people to subcome to their will or desires. When applied to the believes for illness, this force of will-power is often transmitted, most logically, through the eyes, as a person can penetrate the mind most deeply by making contact with another persons' eyes. Personal experience has shown that being stared at is enough to cause uneasiness and one is put on the defensive. This belief may have been reinforced by the chance occurrence of a baby, especially, falling ill after being looked upon by someone who was supposed to have the power to cause illness.

One cannot dismiss this idea altogether even though it is no longer a prevalent attitude in Aruban society today. At one time charms and necklaces were worn to prevent sickness caused by the evil eye. Something that may have carried over in the preparation of folk medicines from the time when this belief was more pronounced is the use of the numbers three, five, seven, and nine in the remedies I was told how to prepare. For the most part, I was told that these numbers serve as average amounts between the quantities of too much or too little. My informant suggested that more knowledge about these sort of things was held by the people from

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the English speaking islands.

I have not investigated the question of the influence these people have on the Aruban population to any great extent as this paper is confined for the most part to the peoples' ideas in the Santa Cruz area. Working from there, I have come across the fact that the remedies used are similar and that they exchange uses and methods. However, the names of some of the plants are different as some people call a certain plant one thing while other people call it something else.

As the use of charms and special magical numbers has decreased, it seems that the presence of western civilization has given a substitute in the form of modern medicine. With the advancement of new ideas about medicine, these practices either died out with those who held them as sacred or were replaced in those who did not have strong feelings about giving up old fashioned customs in favor of advancement.

Before pushing folk medicine out of the picture, let's see the reason for its presence on Aruba. The extensive development of folk medicine through plant remedies is reflected in the social structure of the island. Exactly how these remedies were discovered is difficult to say. For the most part, it may have been a matter of luck or an accident. One must remember that the inhabitants of the island lived much closer to the land than they now do.

Before western medicine was introduced, the people were forced to use what they had available to them, in this case plants. In dealing with illness, it is necessary to do something. Taking the idea of needing to do something and the close association to things from the soil, the next step is to combine the two. The plant answered the needs of food, shelter and clothing and logically, why not look to it for healing sickness.

Instinctively animals choose plants to eat when they are sick. For example, cows will pick out certain grasses to eat when vomiting is necessary. By watching the animals, the basis for knowing what plants to use for what sickness may have been laid.

As with most things, the simple and limited use of a few plants evolved into a complex system of applied medicine involving the classification of specific plants for specific conditions, the

characterization of preparations in fixed ways, the specification of a limited number of individuals in these practices and the development of related practices which emphasized and enhanced the values of plant medicines. On Aruba, there developed "doctors", who healed the sick by using medicine and rituals involving chants, candles and spells. It has been replaced by western values and as there are only a few remaining old woman who know it all, what will remain, as has been seen, are some of the plants and their uses but the belief system has been replaced as is evident from the change that is taking place.

In dealing with this period of change, it is important to note the age structure of the population. There are approximately 1800 people over 65; 10,800 between the ages of 40 and 64; 47,400 between 0 and 39 years. From these figures, one can say that within the next 20 years the people who would know the most about folk medicine will have died. Those in the middle category are to be dealt with separately. The young group will experience isolation either partially or entirely from the concepts of folk medicine. At any rate, they will be exposed to modern medicine for all practical purposes. From this, it is possible to suggest that within the next twenty years the ideas and beliefs in folk medicine will be greatly reduced if not completely lost assuming a continued exposure to westernization.

The degree of importance folk medicine maintains in Aruban culture is dependent on the group of people between 40 and 64. As I previously mentioned, there are two attitudes, those that disregard folk medicine and those that consider it effective. The first group can be seen as being justified in that somethings can be said for modern medicine on Aruba. According to statistics, there has been a decrease or a control in the number of cases of dysentary, typhus, paratyphus, diptheria and tuberculosis on Aruba. (See Appendix B) The child death rate is one of the lowest and life expectancy is placed at 70.

The island's medical facilities include two hospitals with a sick bed capacity of 309, 6 district doctors' offices, 38 doctors, 1 pharmacy in each of the districts outside of Oranjestad and 3 there. There are 3 Public Health nurses, 5 well-baby clinics and

the government subsidy children clinics, the White and Yellow Cross.

The government sponsors a program that offers medical help to those who can't afford it and although it experienced a period of use as a political gimmick, it is still possible to receive free medical service after the usual paper work that westernization brings with it. The government working through the Public Health Service brought about a program that was effective in cleaning up the village area of San Nicolas, thus preventing a slum condition.

All the glory and honor can not be bestowed upon modern medicine for the climate has much to do with the state of health of the people besides a natural cleanliness of the people and their homes. The problem that remains to be solved is not one of illness, as the most frequent illnesses are colds, the flu and diarrhea, but one of alcoholism.

The people, who think along these lines, may have formed this attitude because of an increase in the number of years of schooling but more important, a desire to move away from something they may consider less modern. These people may also be employed in fields that expose them to western ideas and practices and an acceptance of folk medicine might lessen their standing among people who have had no exposure to this background. In some cases, it is better to pretend folk medicine is non-existent than to practice it if it means poorer job opportunities.

For some, folk medicine is all that is economically feasible in spite of government aid. It takes time to get to the help. Therefore there is some relationship between folk medicine and a low economic status. For some, this label could destroy their chances for advancement.

The other attitude that is seen may stem from a number of situations. In speaking with one informant, I found that he felt there was very little in modern medicine because of the cold, impersonal treatment given by the doctors. It is a valid point and on Aruba where serious illness is only occasional this view can be maintained.

It is necessary to clarify one point. In spite of the fact that some dislike doctors, any person who was seriously ill, who needed an operation or was in an accident would accept and perhaps

demand medical attention from doctors on the island or elsewhere. The point is that for little things like a cold, folk medicine is more important to this group because it is personal. Doctors and their medicine are unacceptable because they offer no concern and in effect can only prescribe something, which offers no instant cure.

This group may be surrounded by older traditions. If the family structure is such that several generations live under one roof, it would be impossible to break the tradition and remain there.

The transition that is taking place can best be seen as a slow acceptance of western views toward medicine with a firmly embedded layer of folk remedies. It would be impossible to say whether this change will ever be complete or if there won't always be an influence exerted by the strong traditions that folk medicine held in past generations. What will even be more difficult to see in future generations is whether modern medicine won't always be influenced by this past in an almost subconscious manner, that is can western medicine dissolve the roots of folk medicine such that there will be no trace.

I feel that the two attitudes that I have emphasized are not as strong as I have made them to be. They exist but almost harmoniously. This split does illustrate the idea that modernization efforts are by definition in basic conflict with traditional ideas, customs and techniques. What will probably happen on Aruba is that the new will replace the old on the visible level but those traditions will remain in some degree as long as Aruba houses Arubans.

A further assurance that folk medicine from Aruba will not become extinct is that some have use in medicines today. It is only recently that a good deal of work is being put into the chemical analysis of plant based medicines. With the help of a pharmacist and several doctors, I was able to investigate some of the findings that are pertinent to the plants used by the Aruban population.

My exposure to the artifacts produced in dealing with the treatment of these plants once they were removed from the ground is limited to one example, the Aloe plant, as I was unable to visit the old women, who still practice folk medicine as an art or science. From my informants, I gathered that, today, there are no special

articles needed for the folk remedies they use as they do not employ any special ceremonies or the use of any special articles while preparing the medicine.

Outside of this one instance where there are actual artifacts, I intend to deal with the plants' used in medicines by examining ~~the material aspects of this cultural pattern~~ from the views of how do these processes effect the plants, do these plants have any medical value and are the folk remedies valid or not. Unfortunately the answers to these questions are not yet known in many cases. The limitations that result are that the usefulness of some plants could only be traced to the family and not the particular species, the use of some plants has been discontinued due to other discoveries, the growth conditions for these plants are not world wide and research may not have been undertaken upon relatively isolated species as of yet.

What remains of a once commercial industry that supplied the world with 80% of Aloin, used in face creams and skin moistiners, are a few farmers, who still harvest the oil from the Aloe plant. On one occasion, I visited a farmer who was preparing to boil the oil collected from the Aloe plant. About two weeks before this, the Aloe had been cut at the base of its' leaves and the leaves had been put in a wooden V-shaped trough which has a small opening at one end. The sap drips out of the leaves and runs into a collection container set under the opening in the trough. Generally they are placed on a hill so that the sap can run out of the opening. After enough juice has been collected, it is poured into a large brass pot, 3 feet in diameter and 4 feet high, around which a brick oven has been built. After the pot is full, the oven is lite and the juice is boiled until it becomes thick, black and tar-like. A large spoon is used to stir the pot. It has a wooden handle, 4 feet long, and the spoon part is made of brass. It is 12 inches in diameter and has several holes in it to facilitate movement in the thick resin. A small ladel is kept to check the consistancy occasionally. When it is the desired thickness, it is removed, possibly by laden to boxes where it is allowed to harden. This farmer sells what he produces to Nic Habibi.

The oven is generally placed under a roof. There are several other ovens but they were not in working condition. However, they

were constructed in the same fashion.

Today, Aloe is being used in the commercial preparation of a sunburn cream. It is processed in essentially the same way except that it is purified and refined with modern equipment. Basically, the oil is collected and boiled until it becomes a gel. This is purified by dissolving in various substances and then vacuum dried. The resulting crystals are known as Aloe Mucin and this is mixed to form a skin cream. I visited the lab where the work was being done with this substance and only saw the purified material. I don't know from whom or where they get the unpurified gel. I can't answer the question, do they get the gel in the same way the farmer gets his or do they use modern ovens and pots to manufacture the gel?

Although this is the only plant that was used in such a way as to cause the production of material articles associated specifically with its processing, Aloe and other plants can be dealt with on the level of chemical analysis and medical significance.

Aloe, *Aloe Vera*, Liliaceae, has the ability to help heal open wounds and burns. It is believed that a polyuronide is responsible for this. A polyuronide is a complex naturally occurring polysaccharide which has chemically bonded to itself one or more hexuronic acid radicals and non-toxic salts. It occurs in the natural juices, aqueous extracts and other plant exudates like gums, mucilages and resins.

The gel from the Aloe leaves is composed of water and other volatile compounds and a non-volatile portion that contains the chemically significant compounds. This explains why the gel is boiled. All the water and volatile compounds are evaporated off and those that are important are left in the remaining resin.

The exporting of this resin was necessary as Aruba did not have the facilities for purifying and extracting the important substances. Today, as can be seen by the beginning of a new Aloe industry, the plants' significance has been recognized and can be dealt with on the island, although it is being controlled by a Dutch firm. The success of this venture is limited as the Aloe is no longer found in the vast quantities needed for commercial use on Aruba.

Outside of this commercial aspect, the Aloe plant is one of

most frequent plants mentioned by my informants. It's major use by the people is as a laxative. It's effectiveness has been traced to the presence of three pentosides, barbolin (Aloin), iso-barbolin and beta barbolin. It's cathartic action is due to a stimulation of peristalsis especially in the larger bowel, probably the result of a local irritant effect upon the mucous membrane. There is considerable griping pain associated with its action.

The purgative properties of several plants is dependent in part upon the presence of glycosidal compounds of various hydroxymethyl anthraquinones. A frequent one is emodin, 1,6,8-trihydroxy-3-methylanthraquinone. Aloe and Senna, *Cassia angustifolia*, Fabaceae, contain this compound.

In the case of Aloe, these active substances are present in the oil which is essentially unchanged except for its form by combining with sugar to make a pill. Several of the other uses of this plant may be helpful but there is only evidence that Aloe is an effective laxative and has a tendency to soothe burns and protect open wounds.

Senna is used in Confection of Senna which also contains figs, tamarind, prunes, licorice extract, sucrose and water. This mixture is slightly purgative. In one use, senna, also called senneblar, is used for constipation. The plant is boiled and sugar is added. As senna has been found to have a purgative effect and the substance is solubable in water, this use may indeed be medicinally valuable.

The occurrence of tannins in several plants is also believed to be responsible for a purgative effect. Tannins provide a protective surface over mucous membranes and therefore lessens extensive secretions. Tannins are frequently combined in medicines used to control diarrhea.

Tamarin, *Tamarindus indica*, bears a fruit which is used by Arubans as a purgative. It has been found that the pulp of the plant contains of mixture of tartatic, citric and malic acids which are responsible for its' laxative effect.

Arglo, *Tribulus cistoides*, is used to soothe the fever of a baby, who is teething. This effect may be due in part to the presence of Guaicac, containing Guaieconic acid, $C_{22}H_{26}O_6$, which causes

local irritant action upon the stomach, which in full dose may cause nausea and will increase a tendency to sweat. It is possible that the amount of guaiac that is present in the drink made from boiling the roots may cause sweating which would be helpful in breaking the fever. It has been shown that guaiac forms a film on the surface of a solution of salt water and the roots of the plant when boiled together. Whether it is also a pain reliever is unknown to me from the available information.

Papaii, *Curia papaja*, contains the enzyme, Papain, which is a protein digestant. The alkaloid carpaine, $C_{14}H_{25}NO_2$, seems to be prevalent in the leaves and is responsible for slowing the heart and depressing the nervous system. Papain is used presently as a meat tenderizer and use is made of its ability to digest protein. One folk use mentioned was for high blood pressure. The fruit is cut and put in water and then the water is drunk. It is possible that the alkaloid may be present in this preparation. If so, due to its ability to act as a depressant, it may serve to relieve some of the stress on the heart and in this way, it is beneficial in curing high blood pressure.

Karpata, *Ricinus communis*, is the species from which castor oil is obtained. On Aruba, this plant is not cultivated and the people do not use it for the oil as Castor oil is available commercially. The oil, which is processed from the seeds, has been found to contain ricine, ricinus lipase and ricinus. They are responsible for the activity. The oil, if taken internally, acts as a purgative. It may be used to induce labor. Externally, it acts as a bland emollient to the skin and has been used in the treatment of some skin diseases. It can also be used as a solvent for removing irritating substances from the eye.

Although Karpata is not used due to the accessibility of castor oil, several other members of the family, Euphorbiaceae, to which it belongs, are used for similar purposes. One informant mentioned the use of physic or purging nuts, *Jatropha curcas* as a purgative. Flaira, *Jatropha gossypifolia*, which is used in many remedies, is used particularly for stomach difficulties. It has been found that their purgative action is due to the presence of an oil, curcas jatropha and substances compounded with ricine.

Apeldam, *Zizyphus spina-christi*, is a member of the Rhamnaceae family. To my knowledge, this plant is used in the treatment of the flu. However, it has been found that other species of this family contain anthraglycosides, which are strong laxatives. The fruits of *Rhamnus catharticus* (Buckthorn) have emodin derivatives, which are a mild laxative.

Members of the family, Papaveraceae, have been found to have a central calming effect. *P. somniferum* is the species from which opium is gotten. I have been told that Chimichimi, *Argemone mexicana*, is used for a nervous condition by boiling the roots and drinking the liquid. There may be some relationship between this tendency of the Papaveraceae to calm the body and the use of Chimichimi in the curing of a nervous condition.

Lamoenchi (Lime), *Balanites aegyptica*, is known to contain vitamin C and ascorbic acid. It is used for colds and the flu. Modern medicine also recognizes that vitamin C and ascorbic acid may be helpful in relieving cold symptoms.

There are several families of plants that have medicinal value that are known on Aruba but are not used for those reasons from what I have learned of the remedies still used. The best known species of the Mimosaceae is the Acacia. It is widely used in cough syrups. It contains salts of sugar acids. The kwiki tree is also a member of this family. Other species that were not mentioned by my informants but which are used medicinally and are found on the island are *Tumba tabu*, *Leucaena leucocephala* and *Barba di jonkuman*, *Albizia lebbek*. The Combretaceae family, of which the Mangel is a member, contains tannin and oleoresin.

Of the folk medicines used, there are a number, which do show actual medical significance. How they came to be used for the right sickness is a question of trial and error. Those which have not been found to have medical significance may not be worthless for I have been assured by all my informants that these things do work. Medical investigation may not have been done in these fields yet. Therefore, it is impossible to dismiss their useless or usefulness.

It is interesting to note that the majority of remedies used on Aruba involve the boiling of or pouring boiling water over some

part of the plant. This process results in the formation of a tea, defined as a drink made by infusing the leaves or other part of a plant in boiling water. The point is that any warm drink is comforting to the body and tends to make one feel better for awhile. From this attitude, one can argue logically that these remedies, which in most cases can be defined as a tea, will bring a comforting feeling, which constitutes making one feel better. The purpose of medicine is to make one feel better and thus these medicines do accomplish that purpose.

Folk medicine and modern medicine do play an interesting role in Aruban society. They both offer practical techniques for healing the sick. Yet, they are different in that folk medicine, although most of its' cures are not backed by scientific evidence, offers the close relationship of the sick person and the healer. Western medicine offers medicinally valuable remedies with little concern. On Aruba, the beliefs that remain from the complex science of folk medicine can be retained by the common individual because there are no real threats to his health.

Western ideas about medicine can be accepted freely because they do not require the Aruban to give up his beliefs but rather accept these also. People hold to their old feelings but are willing to receive help especially if it is for their babies.

With the increased exposure to medical facilities, doctors, pharmacies, educational opportunities over the past fifty years, it is natural that the strong beliefs in folk cures and remedies be replaced by other things. A complete take over is not possible as certain things will be passed on from generation to generation. Distortion and eventual loss of the origin will leave bits of isolated information that was at one time a part of the science of folk medicine.

Folk medicine is not a worthless bit of superstition and nonsense for many of the modern medicines are based on these remedies, as illustrated. Modern medicine has had its foundation built from the medical practices of earlier societies.

The island of Aruba has served to illustrate in this paper the remains of the highly developed practices of old medicine, ^{in its society} the replacement of this folk medicine by modern theories of medicine and the medicinal value of several of these folk remedies according to modern standards.

APPENDIX A

Biology of common folk medicines on Aruba.

- Aloe** (*Aloe vera*)
 Cut plant and eat as a purgative. It is a severe laxative.
 Cut plant and take off several pieces of this white flesh. It becomes a watery mush. To eat seven times. It becomes a watery mush. To drink two or three mornings. Good for the liver.
 From the outer part of the plant, which is obtained from the leaf, a pill is made by mixing with either sugar or flour. Take one pill every other day for severe coughs, tuberculosis. One teaspoonful serves as a laxative.
 Take a whole plant and bake in an oven until it dries out and turns brown. Then put it on to the place of the wound, like the back of a hand or a bone or a place that has been bruised. Not for open wounds. Remove the plant.
- Anglo** (*Tribulus terrestris*, Zygophyllaceae)
 Boil roots and scrapings and mashing them. Soothes teething pain in infants and cools a fever.
 Scrap roots and pour boiling water over them. Use two or three teaspoons at a time several times during the day. Helps soothe teething.
- Appeldam** (*Ziziphus jamaicensis*, Rhamnaceae)
 Boil leaves and the resulting tea is used for the flu.
- Basora Pretu** (*Cylindrostachya*, Boraginaceae)
 Boil two pieces of the plant and drink the strained water hot at birth. Used for cleaning out the system after giving birth.
 Drink for a few days after baby's birth to get stomach back in condition.
 For blood in stool, boil as above and drink cold during the day.
 Used for menstrual cramps.
 Roots are cut and cut into small pieces. Then boiling water is poured over them. It is drunk when the blood is poor, anemic.
 It is made into a very strong tea and drunk hot for abortive purposes.
- Basuta**
 Boil the leaves. Drink in the morning as a cure for worms. It is in someone else's home because of its' bad odor which we put the worms into hiding if they got wind of it.
- Bringamosa** (*Jatropha gossypifolia*, Euphorbiaceae)
 Break the plant and let the sap drip into a hole in a tooth. When brought in contact with the skin, it leaves an itching sensation. It causes a slight rash and swelling. It is known as the itchy plant.

Brusca (*Cassia occidentalis*, Papilionaceae)

A coffee is obtained from grinding and boiling the seeds.

It is used to remove fever by placing a limb of the tree by the bedside of the sick person, by crushing the leaves and adding coconut oil, which is then rubbed on the body, by placing leaves in the bed, especially of babies or by sticking the leaves on the bottom of the sick child's foot with soft candle wax.

Calbas, Calbas di monde (*Crescentia cujete*, Bignoniaceae)

Break fruit open and take insides out. Boil the insides with water until it becomes black. Squeeze the fleshy meat and save the liquid. To this substance add sugar and boil until it becomes syrup like. Take every morning when you have a cold.

Boil leaves. To this add a beaten egg. Drink to clear mucus in the throat.

Boil leaves with those of Welensalée and Flaria and drink for the flu.

Cawara, Karawaara (*Cordia alba*, Boraginaceae)

Boil flowers. Drink to ease labor pains.

Break the stem and let the sap drip onto a sore.

Boil flowers and drink for nine days to clean out system after giving birth. It can also be drunk by women to cure venereal diseases.

Cayena Enkel

Wash leaves and tie against head to relieve headache.

Chimichimi (*Argemone mexicana*, Papaveraceae)

Break the plant at the stem and let it drip into a cut.

Boil the roots and drink for a nervous condition.

Enfrou (*Opuntia wendlia*, Cactaceae)

Boil roots and drink for asthma.

Drink three times a day to ease urine complications and to help bad kidneys.

Flairia, Flaira, Seda (*Jatropha gossypifolia*, Euphorbiaceae)

Boil leaves and drink when you have a stomach ache.

Boil the roots and drink if you are a diabetic.

Boil flowers with coffee beans and drink for nine days to relieve asthma.

To induce vomiting, take two or three leaves which have been pulled off the stalk downward and boil with one cup of water. Drink when cool but in the morning.

For diarrhea, follow the same procedure except pull the leaves off upward.

For diabetes, take the leaf without its stem and boil about four of them in a cup of water and drink hot everyday.

Scrap and mash the roots. Pour boiling hot water over this white mash, cool and use as a gargle for a sore throat.

For sore or cracked lips, put oil from stem on them.

Application of the oil to place where cactus thorn has entered will help to bring it to the surface.

One leaf rolled and placed in nostril, clears out nose and passages.

Oil relieves the itch of Brinlamosa.

patata (*Hibiscus communis*, Euphorbiaceae)

Castor oil is squeezed from this family of plants but it is not produced on a commercial scale on Aruba.

Wash leaves and add sweet oil, place in a cloth and tie on place that hurts.

tuna (*Gossypium hirsutum*, Malvaceae)

Boil leaves with those of the black sage and drink for stomach ache.

Pour boiling water over nine leaves. Drink the resulting tea for stomach ache or use the liquid to bathe a portion of the body that is covered with a rash (heat).

atuna di seda (*Calotropis procera*, Asclepiadaceae)

Tie leaves against head to relieve headache.

For swollen feet, tie leaves at that area.

okolode (*Heliotropium angiospermum*, Boraginaceae)

Boil leaves together with Tanchi for use against yellow jaundice. Pour one cup of boiling water over five leaves. Give child one or two teaspoons in the morning for two or three days. It is used to remove the yellow color new born babies have if they have gall trouble. It can also be given to clean out slime which new borns sometimes have. It also helps stop the peeling of the dry skin of new borns.

okorbana (*Tournefortia anaphalodes*, Boraginaceae)

Take a fistful of the dried leaves as a measure and wash seven times. Pour boiling water over them. Use one pint of water. Cool. Drink for three or four days in small dosages throughout the time. It is good for the kidneys. Washes out fine kidney stones. Dry leaves and grind. The resulting powder can be applied to cuts. It is helpful in closing wound.

If drunk in place of water, it has been known to cure ulcers. Generally good for medicinal purposes.

Caution must be taken in that if drunk during pregnancy, it may result in the loss of the child.

Kuki indjan (*Agave vivipara*, Agavaceae)

May be eaten like sugar cane. May cause you to become sleepy. It is sometimes used in making candy.

Bake leaves and then squeeze out liquid. Boil this with one liter of water and sugar until a syrup is made. Drink after baby's birth to clean out system.

When boiled with oil and sugar, the resulting liquid is used for bathing skin wounds. It is believed to cure skin cancer. It is known to have cured a skin disease, possible cancer of one of the informants.

Kwiki (*Prosopis juliflora*, Mimosaceae)

Boil leaves. Wash out mouth when you have a tooth abscess.

Lamoerchi (*Balanites aegyptica*, Zygophyllaceae)

Squeeze fruit and drink juice for a cold.

Boil root for fever.

Ripe fruit can be squeezed and mixed with sugar. It is good for diarrhea.

(choenanthus)
 Drink hot at night. Add sugar to it for taste.
 fever.

leaves per cup for a nice tea.
 ter that is used for washing, cleaning the
 nice smell.

(pentaphyllus, Euphorbiaceae)
 Out pain by tying leaf to that part of the

(oppositifolia, Asteraceae)
 Drink for high blood pressure. It is bitter.
 is boiled and the liquid can be drunk for
 to cure worms in children.

(macrocephalum, Compositae)
 for cramps.
 used to relieve gas pains. It is used for
 der from the same ailment.

(recta, Combretaceae)
 Generally tied against the part of the body that

(, Anacardiaceae)
 and boil. Drink in the morning. Used for

(phthalamum ruber, Asclepiadaceae)
 an of stem and pour one glass (8 oz.) of boiling
 cold, drink a little bit at a time, several
 Used for teething pain.
 stomach ache.
 such or boiled and used as a vegetable.

(a muscoides, Amaranthaceae)
 you have a stomach ache, something heavy in the

(Benbom (Moringa oleifera, Moringaceae)
 out by baking or over a fire. They are then
 a powder. It is used on wounds that won't

Drink liquid when you have kidney pains.
 Drink as a refresher.
 Drink wash water cold. It breaks down kidney
 of some kind of acid.

the poison of a spider bite out of the system
 with the flesh of a Calbas. The mash is then
 eaten as such.

(ristica fragrans, Myristicaceae)
 cloth and put against naval if it bursts.

es, Myoporaceae)

a cold.

n for use during labor.

t given but it is used for abortive purposes.

tum)

the fruit and drink for belly pains.

sit in water for a few hours. Strain and
for high blood pressure.
eat tenderizer.

ortia volubilis, Boraginaceae)

boiling water over three stalks of the plant.
several times during the day. It is used for bad

the same manner and drunk for six weeks after
the mother.

se as a refresher or a cooling agent.

lens, Lamiaceae)

drink in the morning. It is used for stomach

ata, Papilionaceae)

r over dried leaves. Add sugar and put it

Drink cold in the morning. Used for worms.

t black.

add sugar. Drink warm in morning. It is used

se one cup of water per fistful of leaves.

er over leaves. The color should be tea-like.

used for abortive purposes.

, Scrophulariaceae)

stalks per 6 oz. cup of water. Drink when cool

. It is good for stomach ache and diarrhea.

a muricata, Anonaceae)

ink for gall stones, belly ache.

boiling water over seven or nine leaves. Let
times during the day for several days. It

em, clean out internal infection. It works

e leaves and use for high blood pressure.

rdica, Papilionaceae)

ful of leaves and drink hot at night. Used

coats and colds.

can be eaten as a purgative.

into a drink which is pleasant tasting.

ra, Scrophulariaceae)

omache ache. Used for the flu also.

ialk, Zygophyllaceae)

informants but it is medically significant.

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